

CLAIMS

1. A power supply apparatus comprising:

a semiconductor element, disposed in the path of a main current that is a subject of power control, and formed by using a GaN compound; and

a control unit which controls conduction of the main current flowing through said semiconductor element.

2. The power supply apparatus according to claim 1,

10 wherein said semiconductor element is provided in plurality, and said semiconductor elements are connected in parallel.

3. The power supply apparatus according to claim 2,

wherein said semiconductor elements are arranged so as to 15 be adjacent to each other.

4. The power supply apparatus according to claim 1,

wherein said semiconductor element is a GaN-FET.

20 5. A power supply apparatus comprising:

a semiconductor element, disposed in the path of a main current that is a subject of power control, and formed by using a GaN compound; and

25 a control unit which conducts switching control on conduction of the main current flowing through said

semiconductor element.

6. The power supply apparatus according to claim 5,
wherein said semiconductor element is provided in plurality,
5 and said semiconductor elements are connected in parallel.

7. The power supply apparatus according to claim 6,
wherein said semiconductor elements are arranged so as to
be adjacent to each other.

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8. The power supply apparatus according to claim 5,
wherein said semiconductor element is a GaN-FET.

9. A power supply circuit having a transformer, and which
15 conducts on/off control on voltage applied to a primary
winding of said transformer, and thereby supplies a
stabilized power supply voltage to a secondary winding side
of said transformer, further comprising:
of said transformer, further comprising:

20 a GaN-FET connected to the primary winding of said
transformer and on/off-controlled by a gate signal.

10. A large current load current load control apparatus
that conducts on/off control on a current supplied from a
power source according to a predetermined instruction and
25 supplies a resultant current to an electric load, said large

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current load current load control apparatus comprising:

a GaN-FET, connected to a power source line that connects said source to said load, and which conducts the on/off control.